

SOCIETY MEETING OF MARCH 25, 1992

FORENSIC ENTOMOLOGY: THE USE OF INSECTS IN THE INVESTIGATION OF VIOLENT CRIMES

Dr. Wayne Lord, FBI Academy, Quantico, VA

An overflow audience was present for a fascinating lecture by Dr. Wayne Lord, a forensic specialist with the Federal Bureau of Investigation (FBI), on a "gruesome but important business," forensic entomology. Dr. Lord stressed that success in forensics depends on contributions from a variety of specialists and research fields, with his own experience equally varied in ecology (particularly of carrion insects), medicine and forensics. He emphasized that forensic entomologists must first be well-trained entomologists, zoologists and ecologists, and also have extensive training in forensic pathology and criminology. His initial work at the FBI was as a street agent, learning all facets of violent crime investigation and crime scene analysis, not just those dealing with insects.

Forensic entomologists must have a firm knowledge in how human bodies decompose under different conditions, e.g., when decomposers are excluded from the body (saponification or mummification) or when they have access (putrification). Decomposers include bacteria, fungi and vertebrates, but insects are by far the most important. Diptera such as Calliphoridae, Muscidae and Sarcophagidae are the first to colonize the body, and beetles such as Staphylinidae, Silphidae, and much later, Dermestidae, follow in succession. An examination of insect evidence can estimate the postmortem time period, show whether a body has been moved, help determine where injuries were inflicted, and demonstrate the presence of poisons or drugs. In fact, the insect evidence is often the only data to pinpoint the time of death if the body has remained undiscovered for more than 72 hours. A striking set of photographic slides showed the progression of decomposition on a corpse without trauma (head tissues disappear quickly because flies lay eggs into natural openings) and on corpses with injuries (in these cases flies lay preferentially around the wounds).

A knowledge of the ecology, behavior and life histories of these insect decomposers can help determine if a violent crime took place even if years have elapsed since the death. Dr. Lord told of criminals who were caught over minute but compelling evidence such as a broken grasshopper leg in a pants cuff or weevil larvae in a cocklebur on a ski mask. The details that can be gleaned from a thorough examination of the body and crime scene (which can take many hours) can lead to such a thorough reconstruction of the crime that suspects have confessed, believing that "someone" must have watched them commit the crime. As Dr. Lord stressed, in some sense, the body and the decomposers are "telling" you what happened, if you can only understand the language.

There were a few notes of local interest. Chuck Mason announced that Field Day will be September 19 at Fair Hill, MD, instead of the usual spring date. Vince Ventre noted that collections from a recent trip to French Guiana included previously unknown, presumed hybrids of several species of heliconid butterflies.

About 60 members and their guests were present at this meeting which was held at the University of Delaware.

Jon K. Gelhaus,
Corresponding Secretary